

REMARKS

Claims 1 – 7, 9 – 15, and 17 are pending in the present Application. The Examiner maintains the restriction requirement of March 2, 2009, withdrawing claims 9 – 15 and 17 from consideration. By this response, claims 1, 3, 5, 10, 11, and 13 are amended and claim 2 is cancelled. Claims 1 and 9 are independent claims.

Election / Restriction

The Examiner maintains that the claims lack unity of invention under PCT Rule 13.2 because the Examiner cannot find a “special technical feature” in the claims in view of U.S. Patent 5,985,204 and U.S. Patent 5,393,482. Specifically, the Examiner maintains that U.S. Patent 5,393,482 teaches multiple fusion zones and therefore eliminates the “special technical feature” linking the method and apparatus claimed in the present application.

Insufficient Factual Basis

Applicants submit that U.S. Patent 5,393,482 has no teaching whatsoever regarding multiple fusion zones and that therefore the Examiner may not rely on this reference as a basis for maintaining the current restriction requirement. A more thorough analysis of the teachings of U.S. Patent 5,393,482 as compared to the presently pending claims is presented with respect to Applicants’ traversal of the current claim rejections.

With respect to U.S. Patent 5,985,204, Applicants respectfully submit that it contains no teaching of simultaneously propagating fusion zones caused by energy supplied between the zones by one energy beam. If the Examiner feels that U.S. Patent 5,985,204 contains such a teaching, then the Examiner is welcome apply the reference in a substantive rejection. However, the feature of simultaneously propagating fusion zones caused by a single energy beam fusing together portions of a powder layer is present in both the method and apparatus claim sets and therefore even if it is taught in the prior art it is nonetheless a common special technical feature of the claimed invention.

Restriction Does Not Address Novelty

As the Examiner is aware, restriction requirements are not concerned with novelty but are merely concerned with the inter-relationship of claims presented in an application. Because, as mentioned in Applicants' initial restriction requirement response, the administrative instructions for unity of invention analysis presume unity between a process and a related apparatus, it is the Examiner's burden to show that the claimed apparatus and process do not have "corresponding special technical features." The Examiner's opinion with respect to the relative novelty of those features is not a factor in restriction analysis.

The fact that both the apparatus and method claims of the present invention contain the corresponding special technical feature of simultaneously propagating fusion zones is a sufficient basis for unity of invention. To show lack of unity, the Examiner must demonstrate that the simultaneously propagating fusion zones of the method claims are somehow different or otherwise unrelated to the simultaneously propagating fusion zones of the apparatus claims. Lacking such a showing, the Examiner is not free to restrict the method and the apparatus claims of the present invention. The Examiner's opinion with respect to the novelty of the unifying special technical features is not a factor in a PCT Rule 13 analysis.

Summary

Accordingly, Applicants respectfully submit that the Examiner has not correctly applied a PCT Rule 13 analysis of the presently pending claims. Therefore Applicants respectfully maintain that the present restriction requirement is improper and should be withdrawn.

Specification and Drawings

The Specification is objected to for two informalities. A graph in the text of the specification is objected to on the grounds that it should properly be a drawing figure, and reference to the claims within the text of the specification is objected to. Applicants hereby amend the specification and drawing figures to resolve these informalities. Applicants specifically introduce new drawing figure 25, which depicts the graph now deleted from the

specification. Applicants also hereby replace references to the claims within the text of the specification with the language of the claims referenced. Accordingly, reconsideration and withdrawal of this objection is respectfully requested.

Claim Rejections under 35 U.S.C. §103(a)

Claims 1 – 7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over any one of U.S. Patent 5,393,482 to Benda (“Benda”), U.S. Patent Publication 2003/0173713 to Huang (“Huang”), and U.S. Patent Publication 2004/0061260 to Heugel (“Heugel”) in view of Worldwide Patent Publication WO01/81031 to Andersson (“Andersson”). Insofar as it pertains to the presently pending claims, this rejection is respectfully traversed.

Priority

The present Application has a foreign priority date of December 19, 2002. Heugel has a U.S. filing date of September 29, 2003. Applicants therefore respectfully submit that Heugel is not a proper reference against the present Application. Accordingly, rejections based on Heugel are considered moot.

Prior Art

Benda teaches a temperature gradient reduction system and method that applies a de-focused beam concentrically around a laser sintering beam in order to reduce temperature gradients in a powder bed being fused by laser sintering (Abstract). Specifically, Benda clearly differentiates between the defocused beam and the sintering beam. The sintering beam is used for powder bed fusion whereas the other beam is used only for temperature gradient control (see Col., 2 lines 15 – 23; Col. 5 lines 41 – 59; Col. 7, lines 28 – 60).

Huang teaches maskless x-ray lithography (Abstract). There is no sintering taught or suggested in Huang and accordingly no associated fusion zones propagating through a material. Huang specifically teaches that the x-ray lithography process is not heat-based and cannot be initiated by heating (Para. 0036).

Claim 1

Independent claim 1 pertains to a method for production of three-dimensional bodies by successive fusing together of selected areas of a powder bed. The method comprises, in pertinent part, “alternately supplying energy from one radiation gun, according to an operating scheme determined for the powder layer, between two or more geometrically separate positions of said selected area by moving a focal point of the radiation gun between said geometrically separate positions, where said supplying includes forming a cross section of said three-dimensional body by fusing together the powder in said area, such that said moving a focal point creates two or more fusion zones that propagate simultaneously through the selected area during said forming.”

Applicants respectfully submit that neither Benda nor Huang teach or suggest that “moving a focal point creates two or more fusion zones that propagate simultaneously through the selected area during said forming.” Specifically, Benda teaches using a single sintering beam at a single point for powder bed fusion. The concept of multiple fusion zones is wholly missing from Benda. Huang, by contrast, does not even discuss beam fusion and is instead concerned only with whole-layer x-ray curing.

Applicants further submit that Andersson is not relied upon, nor can it properly be relied upon, to remedy the above-noted deficiencies of Benda or Huang. Applicants therefore respectfully submit that neither Benda nor Huang, taken either alone or in combination with Andersson (assuming the references may be combined, which Applicants do not admit), teach or suggest a method of producing three-dimensional bodies where “moving a focal point creates two or more fusion zones that propagate simultaneously through the selected area during said forming” as required by independent claim 1.

Claims 3 – 7

Claims 3 – 7 are allowable at least by virtue of their dependency from independent claim 1.

Summary

At least in view of the above, Applicants respectfully submit that both Benda and Huang are deficient in their teaching with respect to independent claim 1. Applicants further submit that Andersson is not relied upon, nor can it properly be relied upon, to remedy the deficiencies of Benda and Huang. Specifically, neither of Benda nor Huang teach or suggest that “moving a focal point creates two or more fusion zones that propagate simultaneously through the selected area during said forming” as required by independent claim 1 and all claims depending therefrom. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

Conclusion

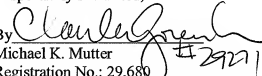
Entry of the above amendments is earnestly solicited. An early and favorable first Action on the merits is earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Naphtali Y. Matlis, (Reg. No. 61,592), at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

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Respectfully submitted,

By 
Michael K. Mutter
Registration No.: 29,680
BIRCH, STEWART, KOLASCH & BIRCH, LLP
8110 Gatehouse Rd
Suite 100 East
P.O. Box 747
Falls Church, Virginia 22040-0747
(703) 205-8000